200200059

## THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

PII International Seeds & Ratgers, The State Unibersity of New Iersey

THE COURSE, THERE HAS BEEN PRESENTED TO THE

## Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE ITTLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE SIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS ASSILTING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, UPITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84

#### RYEGRASS, PERENNIAL

#### 'Kokomo'

In Testimony Alberton I have hereunto set my hand and caused the seal of the Plant Unriety Arotection Office to be affixed at the City of Washington, D.C. this twenty-second day of November, in the year two thousand and four.

Attest.

Commissioner
Plant Variety Protection Office
Assicultural Marketing Service

of Agriculture

REPROD	UCE LOCALLY. Include form number and date			FORM APPROVED - OMB NO. 0581-005
•	U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY	Ē .	1974 (5 U.S.C. 552a) and the Pa	ade in accordance with the Privacy Act of perwork Reduction Act (PRA) of 1995.
	PLICATION FOR PLANT VARIETY PROTEC Instructions and information collection burden st			to determine if a plant variety protection .C. 2421). Information is held confidentia C. 2426).
	OF APPLICANT(S) les k is to exposer on the Certificate)  DLF International See		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
9/11/04	Rutgers, The State Unive	<del>lnc.</del>	CIS-PR 69	Kokomo
4. ADDRE	ESS (Street and No., or R.F.S. No., City, State, and ZIP Code, an	d Country)	6. TELEPHONE finclude area code)	FOR OFFICIAL USE ONLY
	PO Box 229 Halsey, OR 97348		541-369-2251	PVPO NUMBER
	USA		6. FAX finckude area code) 541-369-2640	200200059  F DATE  Jonnay 8,2002
7. GENUS	AND SPECIES NAME	8. FAMILY NAME (	Botanical)	FILING AND EXAMINATION FEE:
	Lolium perenne	Gramina	e	E - 2705
9. CROP K	NO NAME <i>(Common name)</i> Perennial Ryegrass			R 1/8/2002
10. IF THE	APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORG	ANIZATION (corporation, par	tnership, association, etc.) (Common name)	C CERTIFICATION FEE:
11 1E WCO	Corporation PROPRETED, GIVE STATE OF INCORPORATION			* 432
11. (1 11100	Oregon		12. DATE OF INCORPORATION 1972	September 27, 200
13. NAME /	AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, T	O SERVE IN THIS APPLICAT	TON AND RECEIVE ALL PAPERS	14. TELEPHONE (include area code)
	Stephen W. Johnson Cebeco International Seeds, I PO Box 229 Halsey, OR 97348	Inc.		541-369-2251 16. FAX (Include area code) 541-369-2640
e. 127 b. 152 c. 152 d. 152 e. 153 f. 152	APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (For Exhibit A. Origin and Brooding History of the Variety Exhibit B. Statement of Distinctness  Exhibit C. Objective Description of the Variety (Optional)  Exhibit D. Additional Description of the Variety (Optional)  Exhibit E. Statement of the Basis of the Applicant's Ownership Voucher Sample (2,500 viable untreated seeds or, for tuber properties and Examination Fee (\$2,2450), made payable to "Treasure	papated varieties verification r	that tissue culture will be deposited and maintain	ned in an approved public repository)
17. DOES TI	Filing and Examination Fee (\$2,450), made payable to "Treasure RE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOL YES #1 "yes," answer items 18 and 19 below!	D BY VARIETY NAME ONLY,	, AS A CLASS OF CERTIFIED SEED? (See Sect	ion 83(a) of the Plant Variety Protection Acti
	HE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIM		," go to item 20)	S OF PRODUCTION BEYOND BREEDER SEED?
GENERA'	TIONS? YES [] NO		☐ FOUNDATION ☐ REGISTER	
	E VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEE YES (If "yes," give names of countries and dates)	n released, used, offere 図 no	1	
The unde Section 4	icent(s) declare that a viable sample of basic seed of the variety of the control of the variety at issue culture will be deposited applicant(s) is lare) the owner(s) of this sexually reproduct, and is entitled to protection under the provisions of Section 4:  (is) Is(are) informed that false representation herein can jeopardize	sited in a public repository an cod or tuber propagated plant 2 of the Plant Veriety Protecti	d maintained for the duration of the certificate. variety, and believe(s) that the variety is new, o ion Act.	
	Haple W Amon	·····	ATURE OF APPLICANT (Owner(si)	
NAME (Please		NAM	E (Please print or type)	
CAPACITY OF Dir		E 12-20-01 CAPA	ACITY OR TITLE	DATE
STD-//70 #	3-96) (Previous editions are to be destroyed)			information collection hunder statement

#### Exhibit A

# ORIGIN AND BREEDING HISTORY OF KOKOMO (CIS-PR 69) PERENNIAL RYEGRASS

Kokomo perennial ryegrass (*Lolium perenne* L.) is a turf-type cultivar selected from the maternal progenies of 26 clones. Over 80 percent of the parental germplasm used in the development of Kokomo originated from plants selected from old turfs of the Mid-Atlantic region of the United States. Additional germplasm traces to plants selected from or related to Manhattan II, Citation II All\*Star, Jazz, Loretta and PI 231,597 from Greece. Most of the parental germplasm of Manhattan II, Citation II, All\*Star and Jazz also traces to collections from old turfs in the United States.

The majority of the parental germplasm of Kokomo originated from a program to improve perennial ryegrass for turf use initiated by the New Jersey Agricultural Experiment Station. Starting in 1962 a search was made to locate elite perennial ryegrass plants thriving in old turfs throughout much of the United States. The most promising plants were found in warm, humid parts of New York City, New Jersey, Pennsylvania and Maryland. The size, location and appearance of these plants indicated that they originated from seedings made prior to 1940. Clonal evaluation and progeny tests conducted under turf maintenance showed that they had dramatically improved turf performance compared to any other perennial ryegrass available at the time, a darker green color, a lower growth profile and improved resistance to many of the diseases, insects and environmental stresses common to the Mid-Atlantic region of the United States.

An examination of thousands of old lawns, parks, sports fields, cemeteries and golf courses starting in 1962 showed that of the billions of ryegrass seeds used to establish these turfs only a few produced plants able to persist and grow to produce attractive individual plants that were at least three feet in diameter. The most attractive plants were found east of the sheep meadow in Central Park in New York City, in southeast Pennsylvania (the parents of Pennfine and Birdie perennial ryegrasses); in Paterson Park, Riverside Park and a school playground in Baltimore, Maryland; the campus lawn of the University of Maryland, College Park, Maryland; Warinaco Park, Elizabeth, New Jersey; and the Colonia and Atlantic City golf courses near Colonia New Jersey and Atlantic City New Jersey.

Tillers obtained from these selected plants were subsequently evaluated in frequently mowed turf trials. Plants obtained from crosses of the best performing clones were subsequently selected to initiate a long-term germplasm enhancement program using many cycles of phenotypic and genotypic recurrent selection. Phenotypic selection involved (1) selection of darker green, more compact, disease-free, highly tillering seedlings during winter greenhouse tests; (2) inoculation and selecting for resistance to crown rust; (3) selection of attractive, leafy lower-growing, dark-green plants showing higher seed yielding potential in spaced-plant nurseries; (4) selecting attractive plants surviving in closely mowed turf trials subjected to stresses of heat, drought, disease, insects and winter cold. Genotypic selection included extensive evaluation of single-plant progenies in closely mowed turf trials and spaced-plant nurseries. Additional germplasm was added to

the program as opportunities developed. Separated breeding composites were developed to help maintain genetic diversity and reduce inbreeding.

Following varying cycles of phenotypic and genotypic recurrent selection a several plants were crossed at Adelphia, New Jersey in 1997. Each plant crossed was harvested individually. A portion of the seed from 35 of the plants was used to establish progeny turf plots at Adelphia in the fall of 1997. This group of progenies was designated SJSPR and the individual progenies were numbered 1-35. Residual seed from the 35 SJSPR progenies was sent to Cebeco International Seeds, Inc.'s research station near Tangent, Oregon where in the fall of 1997 it was used to establish a spaced-plant nursery consisting of three replications of 30 plants from each familiy.

During 1998 and 1999 the Oregon nursery was observed and plants with low vigor, lighter green color, or susceptibility to leaf spot were rouged out. Prior to anthesis in 1999 all of the plants in families SJSPR -1, -8, -17, -20, -25, -27, -29, -31, -33, -35 were mowed down due to poor performance in the Adelphia progeny turf trials. In the remaining 26 families approximately 60 % of the original plants were removed before anthesis. The remaining plants were allowed to inter-pollinate. Seed harvested from these plants was bulked and constitutes the stock seed for the variety Kokomo (experimental CIS-PR 69). A portion of this seed is maintained by Cebeco International Seeds and may be used to plant new breeder seed fields when necessary.

The variety Kokomo has appeared uniform and stable during multiplication from breeder to foundation generations. Kokomo has a small percentage (<0.5%) of plants that are somewhat taller and coarser than the rest of the population. The percentage of these plants appears to be stable when seed is multiplied from breeder to foundation generation.

### Exhibit B

## Novelty Statement

Kokomo perennial ryegrass (Lolium perenne L.) is a medium late variety developed for use in turf..

Kokomo is most similar to Brightstar II. Differences between Kokomo and Brightstar II include, but are not necessarily limited to the following:

- 1. Kokomo has significantly greater resistance to leaf spot than Brightstar II when the cultivars are grown as turf in western Oregon. (7.4 vs. 5.3 on 9=no disease scale).
- 2. Kokomo has a lower average weight for 10 spikes (2783 mg vs. 3032 mg).

EXHIBIT C (Ryegrass)

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
BELTSVILLE, MARYLAND 20705
OBJECTIVE DESCRIPTION OF CULTIVARS
RYEGRASS
(Loium sep.)

/	
NAME OF APPLICANTS)  BLF International Seeds and Lutgers, The is late Universe Cobeco International Seeds. Inc. of New Jersey	YARIETY NAME OR TEMPORARY DESIGNATION
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	KOKOMO
PO Box 229	FOR OFFICIAL USE ONLY PVPO NUMBER
Halsey, OR 97348	
	200200059
Place the appropriate number that describes the varietal character of this variety in the boxes below.	Place a zero in first box (e.g. 0 8 9 or 0 9 )when
number if either 99 or less or 9 or less. Descriptions of characters should represent those that are ty data should be for SPACED PLANTS. Give additional description for all characteristics that cannot petrinent comparative trial and evaluation data. The symbol "\textstyle\te	pical for the variety. Ranges may be given also. Measure be adequately described in the form below. Append all
1. SPECIES:	
1 * L. MULTIFLORUM (annual or Italian: includes Westerwoldicum) 2 = L. PERENNI	E (perennial) 3 = L, RIGIDUM (includes Wimmera)
4 = HYBRID'(of species) 5 = OTHER (Species)	cify)
2. PLOIDY:	
1 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER (Spe	cify)
3. DURATION:	
3 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years)	3 = PERENNIAL (more than 4 years)
STANDARD CULTIVARS	
1 = GULF 2 = WIMMERA 62 3 = LINN	4 * PELO
4. MATURITY (50% HEADED) Use standards from above for comparison:	N 8 = PENNFINE
6 5 = MEDIUM 7 = LATE 0 6 DAYS EARLIER THAN	7 STANDARD CULTIVAR
9 = VERY LATE 0 4 DAYS LATER THAN Pin	nnacle STANDARD CULTIVAR
5. MATURE PLANT HEIGHT (Use standard cultivars from above):	***************************************
5 0 0 CM. HIGH 7 6 CM. SHORTER THAN	7 STANDARD CULTIVAR
9 1 CM. TALLER THAN .Elka STANDARD CULTIVAR	<del></del>
Elka STANDAND COLITYAN	
6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use sta	andard cultivars from above for comparison:
0 PERCENT DAMAGE OF APPLICATION CULTIVAR (No winter dam	age observed in trial
grown in west	
PERCENT DAMAGE OF STANDARD CULTIVAR	<b>Q</b> ,
7. TURF DENSITY Use standard cultivars from above:	
3 6 / TILLERS PER 100 SQ. CM.	•
3 6 4 TILLERS PER 100 SQ. CM.	•
LESS TILLERS PER 100 SQ. CM. THAN STANDARD CULTIVA	R
2 4 MORE TILLERS PER 100 SQ. CM. THAN STANDARD CULTIVA	ß Brightstar II
8. FLAG LEAF (at full growth) Use standard cultivars from above:	
1 2 6 CM. LENGTH (from ligule to tip) 3 3 MM. WIDTH	(at widest point)
3 9 CM. SHORTER THAN DELPY Supreme. STANDARD CULTIVA	1 = DEFLEXED
	7 BOOT STAGE: 5 = HORIZONTAL 7 = SEMI-ERECT 9 = ERECT
0 7 CM. LONGER THAN .EIka STANDARD CULTIVA	R J- Elled
. 0 5 MM. NARROWER THANDER SUPERME. STANDARD CULTIVA	R ·
MM. WIDER THAN STANDARD CULTIVA	R

		TANDARO CULTIVARS	
1 = GULF 5 = NORLEA	2 = WIMMERA 62 6 = ABERYSTWYTH \$-23	3 = LINN 7 = MANHATT	4 = PELO AN 8 = PENNFINE
9. LEAVES	t = LEAVES ROLLED IN YOUNG SHOOT TION: 2 = LEAVES SEMI-ROLLED (folded with to 3 = LEAVES FOLDED IN YOUNG SHOOT	rolled edges)	
90	% PLANTS WITH ANTHOCYANIN IN LOWER I	LEAF SHEATH 3 FO	1 = YELLOW GREEN 2 = MEDIUM GREEN 3 = BLUE GREEN
10. SPIKE:	MM. SPIKE LENGTH (tip to internode below los	vest floret)	· ·
	M. LONGER THAN		NDARD CULTIVARS FROM ABOVE
2 6 5	MG. PER TEN SPIKES (trimmed to internot go and go a	Bright	star II Ndard Cultivars from above
1 9 5 1 2 F	MG. HEAVIER PER TEN SPIKES THAN	Elka	
PERCENTAG	E OF PLANTS WITH:		
RACHIS:	1 0 0 * SMOOTH	*	ROUGH
SPIKE COLOR:	5 8 % GREEN	4 2 *	PURPLE
LEMMA:	0 % AWNED	MI MI	I, AWN LENGTH
7 8 MA	L GLUME LENGTH		T LENGTH NEARLY EQUAL TO OUTER GLUMES T LENGTH MUCH LONGER THAN OUTER
11. ©LEOPT	ILE: % PLANTS WITH ANTHOCYANIN IN COLEOPT		
7 9	COLOR: % PLANTS WITH WHITE ANTHERS % PLANTS WITH PURPLE ANTHERS	116 × P	LANTS WITH YELLOW ANTHERS
	D PLANT CHARACTERS: % PLANTS WITH PROSTRATE GROWTH HABIT	0 2 6 **	LANTS WITH FLUROESCENT ROOTS
	% PLANTS WITH UPRIGHT GROWTH HABIT		
14. <b>SEED</b> :	5 MG, PER 1,000 SEED 5 4	MM, TOTAL LENGTH	OF 10 1 4 2 MM, TOTAL WIDTH

200200059

16. DISEASE (0 = 1	NOT TESTED, 2 = HIGHLY SUSCEPTIBLE,	4 - MODERATELY SUSCEPTIBLE, 6 - MODERATELY RESISTANT,
7 CROWN RUST 7 LEAF SPOT (HE SNOW MOLD (1	(Puccinia coronata) 7 DOLL/ elminthosporium) 0 MILDE Typhula) 5 RED T	AR SPOT (Sclerotinia)  0 BROWN PATCH (Rhizoctonia)
COMPARISON IS	ANCE VALUE IN LEFT COLUMN AND VAR MADE (1 = LESS THAN, 2 = SAME AS, LEATER HEIGHT.):	HETY CODE NUMBER IN RIGHT COLUMN FOR VARIETY WITH WHICH 3 = MORE ERECT, MORE RESISTANT, DENSER, MORE PERSISTENT,
RESEMBLANCE	CHARACTER	SIMILAR VARIETY
9	PLANT HABIT (erectness)	1 = GULF
9	TILLERING	2 = WIMMERA 62
9	WINTER HARDINESS	3 = LINN
9	HIGH TEMP. STRESS RESISTANCE	4 = PELO
9	TURF PERSISTENCE	5 = NORLEA
9	PLANT COLOR	6 = ABERYSTWYTH S-23
9	VERTICAL SEEDLING GROWTH RATE	7 = MANHATTAN
9	CROWN DENSITY	8 = PENNFINE
9	MOWER SHREDDING RESISTANCE	9 = Brightstar II
18. GIVE AREA OF A	DAPTATION AND INTENDED USE: Kol	komo's area of adaptation includes western OR; Tur
19. GIVE AREA TEST	RESULTS PRESENTED FROM: Tanger	nt, Oregon - Concord silty loam
COMMENTS:		

Table1.

Heading dates of perennial ryegrass varieties grown near Tangent, Oregon in 2000 and 2001.

•	2000	2001	00-01
	Heading	Heading	Heading
NAME	Date	Date	Date Average
Linn	May 2	May 8	May 5
Manhattan II	May 15	May 19	May 17
Derby Supreme	May 16	May 18	May 17
Pinnacle	May 16	May 19	May 18
CIS-PR 72	May 17	May 21	May 19
Essence	May 18	May 24	May 21
Kokomo	May 20	May 23	May 22
Brightstar II	May 20	May 24	May 22
All*Star2	May 21	May 25	May 23
Gator3	May 21	May 25	May 23
Cabo	May 22	May 26	May 24
CIS-PR 84	May 22	May 26	May 24
CIS-PR 75	May 22	May 27	May 25
Manhattan	May 27	May 29	May 28
Elka	June 5	June 6	June 6

Table 2.

Morphology of perennial ryegrass varieties grown near Tangent, Oregon in 2000 and 2001. Trial consisted of three replications with 20 plants per replication. LSD determined from two-way analysis of variance.

							מטטכ	2004	00.04 Asses						
	2000	2001	00-01 Avg.	2000	2001	Ö	First	First	First	2000	2001	_	2000	2004	00-01 Ave
	Plant	Plant	Plant	Spike	Spike		Infernode	Internode	Internode	Flag Leaf	Flag Leaf	·	Flag Leaf	Flac 1 eaf	Flac Loaf
	Height	Height	Height	Length	Length		Length	Length	Lenath	Length	Length		Width	Midth	Midth
NAME	(cm)	(cm)	(cm)	(cm)	(cm)		(cm)	(cm)	(cm)	(cm)	(cm)		(mm)	(mm)	(mm)
Linn	83.2	70.2	76.7	22.4	17.9		26.5	17.9	22.2	15.7	14.2	-	3.6	3.5	2.5
Derby Supreme	79.3	66.4	72.8	24.0	17.8		25.0	17.7	21.4	17.2	. 4 i &		2 %	, <u>,</u>	
Manhattan II	71.2	61.4	66.3	22.3	16.6		23.4	15.6	19.5	15.1			t o	- a	o 0
Pinnacle	64.1	53.4	58.8	19.2	14.7		23.2	14.1	18.7	141	200		9 0	) r	9 6
Essence	63.3	48.9	56.1	19.4	15.7		22.1	14.2	18.1	14.6	120		, c	t <del>-</del>	ט טיע
Manhattan	62.8	52.3	57.6	20.3	15.6		18.3	12.4	15.4	5.5	0 0		י נית	- 0	, c
Brightstar II	59.2	47.9	53.5	16.1	15.4		17.4		144	1. 0. <del>1.</del> 0. 0.	10.0		) C	4 ¢	o c
All*Star II	57.3	43.0	50.2	16.2	14.7		16.6	14.9	τ. α	14.0	- <del>-</del>		- 1·	0 0	o (
CIS-PR 84	57.3	45.2	51.3	17.0	14.3			14.1	, w	- œ	- <del>.</del> .		- C	0 a	5. C
Gator 3	56.7	44.7	50.7	17.1	14.8			- 4 - 4		 	- <del>-</del> -		) i	0 0	ა ი 4 1
CIS. PR 75	563	44.2	, r	170	. 6. R		5 6		) (	5 6	_ c 5 t		- i	4.	۵.
2000	9 6	1 6		 			0.6	0. 4	0.0		). D		3.0	3.8	3.4
7/ ٢4-00	7.00	45.6	0.10	16.3	13.5		19.0	16.1	17.6	13.2	10.9		2.7	3.7	3.2
Cabo	9 9 9	44.6	50.2	16.9	13.8		18.3	17.5	17.9	12.5	12.0		3.2	ტ. წ	3.5
Kokomo	55.5	44.5	50.0	17.2	13.3	15.2	16.3	10.1	13.2	14.7	10.6		2.9	3.6	60
Elka	42.7	39.0	40.9	16.5	14.6		12.0	11.4	11.7	12.6	11.2	11.9	2.9	4.4	3.6
LSD @ 0.05	6.1	3.2		2.3	1.9		3.7	3.7		2.9	2.6		0.5	6.0	

Table 3. Tillers per 100 square centimeters of Perennial ryegrass varieties grown under turf culture near Tangent, Oregon

	1999 Trial	2000 Trial	Average
	Tillers per	Tillers per	Tillers per
NAME	100 sq cm	100 sq cm	100 sq cm
Cabo	417	374	396
All*Star II	397	354	376
CIS-PR 84	382	350	366
Gator3	377	362	369
CIS-PR 75	370	364	367
Top Hat	364	358	361
CIS-PR 72	363	347	355
Kokomo	359	369	364
Brightstar II	358	323	340
Essence	352	311	332
Derby Supreme	294	265	279
LSD @ 0.05	68	58	

Table 4.

Ratings of perennial ryegrass varieties grown under turf culture near Tangent, Oregon. Three replication trial established September 1999. LSD determined by two-way analysis of variance.

	2000 Color 1-9	2001 Color 1-9	00-01 average Color 1-9	2000 Leaf Spot 1-9	2001 Leaf Spot 1-9	00-01 average Leaf Spot 1-9
NAME	9=dark green	9=dark green	9=dark green	9=no disease	9=no disease	9=no disease
All*Star2	7.5	7.8	7.7	7.7	6.5	7.1
CIS-PR 84	7.7	7.5	7.6	7.0	7.0	7.0
CIS-PR 72	6.8	7.3	7.1	7.7	6.5	7.1
Cabo	8.0	7.7	7.8	6.3	5.8	6.1
Pizzazz	7.7	6.8	7.3	7.3	6.7	7.0
Gator 3	7.0	6.8	6.9	7.8	6.5	7.2
Kokomo	6.8	6.7	6.8	7.7	7.0	7.3
R 8000	7.0	6.8	6.9	7.2	5.7	6.4
CIS-PR 75	8.0	6.8	7.4	6.8	5.7 5.5	6.2
PST-2BR	6.7	6.5	6.6	7.7	6.0	6.8
PST-2L96	7.2	7.0	7.1	7.3	5.2	6.3
PST-2A6B	6.8	6.5	6.7	5.7	5.2 5.3	5.5
CIS-PR 83	6.8	6.5	6.7	4.7		
Brightstar II	7.0	6.7	6.8		6.0	5.3
PST-CRL	6.5	6.7		5.8	4.7	5.3
CIS-PR 82	6.3		6.6	5.8	5.5	5.7
MP 107	7.5	7.2	6.8	5.8	5.7	5.8
PST-2SLX		6.7	7.1	4.7	4.0	4.3
	7.2	6.3	6.8	5.5	4.5	5.0
Paragon	5.7	5.8	5.8	6.3	5.2	5.8
Promise	6.7	6.5	6.6	6.0	5.0	5.5
MP 103	7.5	6.5	7.0	5.5	3.5	4.5
CIS-PR 77	7.0	6.8	6.9	4.5	4.8	4.7
CIS-PR 81	5.7	6.3	6.0	3.7	4.3	4.0
Palmer III	5.2	5.8	5.5	4.5	4.8	4.7
Ascend	6.3	6.0	6.2	5.2	4.7	4.9
Majesty	6,0	5.8	5.9	4.5	4.7	4.6
PST-2CRR	5.8	5.8	5.8	4.7	4.0	4.3
PST-2SBE	6.3	6.0	6.2	3.3	3.8	3.6
CIS-PR 91	6.0	6.2	6.1	4.7	4.7	4.7
CIS-PR 70	6.3	6.0	6.2	4.3	4.8	4.6
CIS-PR 74	5.2	5.2	5.2	3.8	4.5	4.2
PST-CATS	6.0	6.0	6.0	4.0	4.2	4.1
CIS-PR 76	6.2	6.0	6.1	5.3	4.5	4.9
PST-2LA	5.8	6.2	6.0	4.3	4.0	4.2
Divine	5.2	5.2	5.2	5.0	3.7	4.3
PST-2RT	5.7	5.7	5.7	4.7	4.0	4.3
CIS-PR 119	5.5	5.5	5.5	4.3	4.5	4.4
PST-2M4	5.7	5.8	5.8	5,5	4.5	5.0
Catalina	5.2	5.8	5.5	4.5	3.7	4.1
Top Hat	4.3	5.2	4.8	4.8	4.7	4.8
Platinum	4.8	5.0	4.9	4.0	4.7	4.3
Charger II	4.3	5.3	4.8	4.2	3.8	4.0
PST-2JH	5.7	5.2	5.4	4.2	3.5	4.0 3.8
Manhattan 3	5.7	5.8	5.8	4.2		
Premier	4.5	4.7			3.8	4.0
Evita	2.3	3.8	4.6	2.8	4.3	3.6
Essence	4.3		3.1	4.8	5.5	5.2
Boulevard		4.5	4.4	3.3	3.5	3.4
Road Runner	4.2	4.5	4.3	2.7	4.3	3.5
	4.5	4.8	4.7	4.3	4.0	4.2
Rhapsodie	2.7	3.3	3.0	5.2	5.0	5.1
Affinity	3.8	4.3	4.1	4.3	3.8	4.1
R2	3.0	4.0	3.5	2.7	3.8	3.3
Renoir	3.0	3.2	3.1	2.7	4.3	3.5
Avenue	3.7	3.7	3.7	1.8	3.0	2.4
Elka	3.2	3.2	3.2 .	1.5	4.5	3.0
Gator II	3.5	4.5	4.0	3.7	4.3	4.0
Dali	3.3	3.2	3.3	2.2	4.0	3.1
Chagall	2.8	3.2	3.0	2.7	4.0	3.3
Buccaneer	3.7	4.2	3.9	4.2	3.7	3.9
Milton	3.0	3.5	3.3	2.7	4.3	3.5
YatsuGreen	2.8	3.5	3.2	3.2	3.2	3.2
Derby Supreme	3.2	3.2	3.2	2.8	3.7	3.3
Linn	1.5	1.3	1.4	1.7	2.5	2.1
LSD @ 0.05	0.9	0.7		1.2	1.0	· · · · ·

Table 5.

Spike Characteristics of perennial ryegrass varieties grown near Tangent, Oregon in 2000 and 2001. Trial consisted of three replications with 20 plants per replication. LSD determined from two-way analysis of variance.

00-01 No. of Florets	0.6	9.7	10.2	10.8	10.5	10.0	11.3	4 2 8	2	11.3	10.5	11.2	10.0	8.7	10.2	10.8	
2001 No. of Florets	9.7	9.7	9.7	10.0	11.3	10.3	11.0	12.0		)  -  -	10.3	10.3	6,3	8.7	10.7	11.0	1.5
2000 No. of Florets	8.3	9.7	10.7	11.7	9.7	9.7	11.7	11.7	1,1,1	) · · ·	10.7	12.0	10.7	8.7	9.7	10.7	2.2
00-01 Spikelet Length(mm)	15.2	18.1	15.8	15.7	16.5	12.8	16.0	15.3	115		16.7	14.1	11.7	10.9	12.5	15.0	
2001 Spikelet Length(mm)	15.2	16.6	15.0	15.0	15.5	13.0	15.0	14.9	125	, t	/.c.	14.2	10.5	10.8	12.6	15.0	1.9
2000 Spikelet Length(mm)	15.2	19.5	16.7	7 5 5 1	1,5 1,5	12.7	17.0	15.7	15.5	7 7 7	· · · · ·	14.0	12.8	11.0	12.3	15.0	1.9
00-01 Glume Length(mm)	, G	2	10.0	က်	o -	2) (2 4   1	, i	7.8	7.6	c o	9 0	0 t	7	7.0	6,7	8.8	
2001 Glume Length(mm)	, ç , ç	\. - -	0.0	ο α Ο Γ	- u	7 0	- 1	)'')	7.2	ď	2 7	- r	, t	0.7	O :	7.3	1.8
2000 Glume Length(mm)	5.6	<u>†</u> <del>†</del> <del>†</del>	2.0	2.0	<u> </u>	5.0	· •	0,0	8.0	10.2	00	1.7	7 - 7	- 1 5 0	g.,	10.3	2.6
00-01 Weight of 0 Spikes (mg)	3330	3123	3032	2912	2853	2773	2652	C022	2547	2693	2593	2465	2450	2400	2500	11.77	
2001 Weight of 10 Spikes (mg) 1	2930	2853	2840	2693	2837	2703	2523	6110	2410	2707	2587	2437	2480	2380	0000	2230	314
2000 2001 00-01 Weight of Weight of Weight of 10 Spikes (mg) 10 Spikes (mg) 3957 3167 3562	3730	3393	3223	3130	2870	2843	2783	2000	2003	2680	2600	2493	2437	7,040	2000	2022	325
NAME Manhattan	Linn	Derby Supreme	Brightstar II	Manhattan II	Essence	Pinnacle	Kokomo	OIS DD 72	0.00 × 1.00	Capo	All*Star2	CIS-PR 84	Elka	Gator3	CIS-PR 75		LSD @ 0.05

Table 6.

Seed Characteristics of perennial ryegrass varieties grown near Tangent, Oregon in 2000 and 2001. Trìal consisted of three replic with 20 plants per replication. LSD determined from two-way analysis of variance.

		(																		
	00-01 10 Seed	Width (mm	15.7	13.8	13.9	13.4	13.9	13.6	14.2	2.2	7.1	13.1	13.7	13.1	13.4	710	 	7.7.7	7.7	
	2001 10 Seed	Width (mm)	15.0	14.3	13,8	13.5	14.5	13.8	14.5	15.1	5	13.1	14.3	12.8	14.5	11.0	400	7 2 7	<b>+</b> : <b>7</b> :	1.2
•	2000 10 Seed	vviatri (mm)	16.3	13.3	14.0	13.3	13.3	13.3	14.0	13.3	2007	13.0	13.0	13.3	12.3	11.3	12.0	10 C	2	0.8
•	00-01 10 Seed   ength (mm)	1 69 A	4.00	48.3	49.6	58.7	57.5	49.5	50.7	54.6	40.5	0 (	30,6	48.3	48.5	44.6	47.8	47.0		
	2001 10 Seed Lenath (mm)	50.2	4.00	4. 	8.44.8	.40 L.1	25.7	9.4	46.5	53.3	47.0	9.00	0.22.0	45.3	43.0 0.0	42.3	44.0	42.3		4.7
	2000 10 Seed Length (mm)	1							0.00											2.8
	00-01 1000 Seed Weight (mg)	2719.2	2093.3	2148.3	2010.0	1991 7	2015.8	2008.0	7000.7	1934.6	1933.8	1715.1	1875.0	1603.5	1000 1000 1000 1000 1000 1000 1000 100	111	1457.0	1490.5		
	2001 1000 Seed Weight (mg)	1971.9	1758.7	1920.0	1758.5	1770.2	1877 1	1874.5	17530	0.0071	1837.0	1451.6	1803.2	1444 9	1638 0	1000.0	0.000	1541.5		164.2
	2000 1000 Seed Weight (mg)	3466.4	2427.8	2376.7	2281.1	2213.2	2154.2	2142.0	2116.3	0.000	4030.6	1978.6	1946.8	1762.0	1669.4	1530 B	7 000	1439.5		243.7
	NAME		Derby Supreme	Brightstar II	Manhattan II	Pinnacle	Cabo	Gator3	Kokomo	A11*C+or0	Stal Stal Z	Manhattan	CIS-PR 75	CIS-PR 72	Essence	Eka	70 00 010	40 KL-010	(	LSD @ 0.05

FORM APPROVED - OMB No. The following statements are mad 1974 (5 U.S.C. 552a) and the Paper	e in accordance with the Privacy Act
1 1011 10 0:0:0: 0020, 0:00 0:01 0:01	erwork Reduction Act (DDA) of 1005
1	
certificate is to be issued (7 U.S.C	determine if a plant variety protection 2421). Information is held confidention 2426].
2. TEMPORARY DESIGNATION	3. VARIETY NAME
CIS-PR 69	Kokomo
5 TELEPHONE COLL	G. FAV.
	6. FAX (include area code)
	541-369-2640
_	9
	X YES NO
	X YES NO
	X YES NO
untry	
ntry	YES NO
ds, Inc. using germpl	asm obtained
	······································
e of the following criteria:	
e a U.S. national, national of a t e genus and species.	JPOV member country, or national
al breeder(s), the company must affords similar protection to nation	be U.S. based, owned by ponals of the U.S. for the same
der and the applicant must mee	t one of the above criteria.
and and applicant mast mee	
	until certificate is issued (7 U.S.C.  2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  CIS-PR 69  5. TELEPHONE (include area code) 541-369-2251  7. PVPO NUMBER  20020005  lock. If no, please explain.

suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791.

To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.